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MEDFORD ELECTRIC UTILITY

January 27, 2003

Mr. Scot Cullen, Chief Electric Engineer
Public Service Commission
610 N. Whitney Way
P.O. Box 7854
Madison, WI 53707-7854

RE: In the Matter of Filing Reporting Requirements for Appropriate Inspection and Maintenance, PSC Rule 113.0607(6)

Dear Mr. Cullen:

Enclosed for filing are 3 copies of Medford Electric Utility's report to the commission, submitted every two years, showing compliance with its Preventative Maintenance Plan.

Very truly yours,

Michael A, Frey
Manager

Enclosures

Michael A. Frey - Manager
639 S. SECOND STREET - P.O. BOX 360 MEDFORD, WISCONSIN 54451 715/748-3211

TWO YEAR REPORT DOCUMENTING COMPLIANCE WITH THE PREVENTATIVE MAINTENANCE PLAN

Medford Electric Utility

FILING DEADLINE
FEBRUARY 1, 2003

January 28, 2003

Michael A. Frey
P.O. Box 360
Medford, WI 54451-0360
(715) 748-3211
meu@tds.net

This report format was prepared by the MEUW work group for PSC Rule 113.0607 for use by the 82 municipal electric utilities in Wisconsin and endorsed by PSC staff as meeting the requirements of Rule PSC 113.0607.

I Reporting Requirements: PSC 113.0607(6) states;

Each utility shall provide a periodic report to the commission showing compliance with its Preventative Maintenance Plan. The report shall include a list of inspected circuits and facilities, the condition of facilities according to established rating criteria, schedules established and success at meeting the established schedules.

II Inspection Schedule and Methods:

SCHEDULE:	MONTHLY	ANNUAL	EVERY 5 YEARS
Transmission (≥69Kv)		X	X
Substations	X	X	
Distribution (OH & UG)			X

METHODS: Five criteria groups will be used to complete the inspection of all facilities.

1. IR – infrared thermography used to find poor electrical connections and/or oil flow problems in equipment.
2. RFI - Radio Frequency Interference, a byproduct of loose hardware and connections, is checked using an AM radio receiver.
3. SI – structural integrity of all supporting hardware including poles, crossarms, insulators, structures, bases, foundations, buildings, etc.
4. Clearance – refers to proper spacing of conductors from other objects, trees and conductors.
5. EC – equipment condition on non-structural components such as circuit breakers, transformers, regulators, reclosers, relays, batteries, capacitors, etc.

Distribution facilities will be inspected by substation circuits on a 5 year cycle such that the entire system will be inspected every 5 years. Inspector instructions for inspecting all facilities and forms are included in the plan.

III Condition Rating Criteria

This criterion, as listed below, establishes the condition of a facility and also determines the repair schedule to correct deficiencies .

0) Good condition
1) Good condition but aging
2) Non-critical maintenance required – normally repair within 12 months
3) Priority maintenance required – normally repair within 90 days
4) Urgent maintenance required – report immediately to the utility and repair normally within 1 week

IV Corrective Action Schedule

The rating criteria as listed above determine the corrective action schedule.

V Record Keeping

All inspection forms and records will be retained for a minimum of 10 years. The inspection form contains all of the required critical information i.e. inspection dates, condition rating, schedule for repair and date of repair completion.

VI Reporting Requirements

A report and summary of this plan's progress will be submitted every two years with the first report due to the Commission by February 1, 2003. The report will consist of a cover letter documenting the percent of inspections achieved compared to the schedule and the percent of maintenance achieved within the scheduled time allowance.

VII Inspected Circuits and Facilities

Circuit # and description	Substation
North Sub NW Feeder	North Substation
North Sub Tie Feeder	Whelen Substation
North Sub Allman St Feeder (in progress)	
South 12kV Tie Feeder	South Substation Units 1 & 2
South 4kV Tie Feeder(partial)	
Whelen 4kV Tie Feeder(partial)	
South-North Sub 69kV	

VIII Scheduling Goals Established and Success of Meeting the Criteria:

Our original goal and plan was to complete all inspections and all resulting maintenance as described herein. In 2002, we modified the plan where, in addition to the plan's annual inspections, we retained a contractor to perform more extensive substation maintenance at each substation on a rotating annual basis. At the same time, the contractor will also complete the annual IR scans of all the substations, transmission line scan, and IR scan all distribution circuits associated with that particular substation. Our forces would then complete the distribution line inspections associated with the substation in that year. Essentially this would result in a 4-year inspection of the overhead circuits and the 5th year would be dedicated to inspecting underground equipment and, if necessary, any overhead circuits

that we were not able to inspect. After the first inspection 5 year cycle the schedule will be reviewed.

Additionally, in 2001 we began planning to develop a Geographical Information System (GIS), along with the City of Medford. Our initiative was to provide a positional inventory of infrastructure using a cost-effective application that our staff would be capable of learning and maintaining, but that is expandable in the future. In 2002 we began to implement the GIS system and have been collecting GPS locations of our facilities and integrating the information with our existing equipment databases as we do the circuit inspections. We are hopeful that when this process is completed we can develop more efficient inspection methods using the GIS system.

To date we have done substation inspections and inspected GPS'd our single transmission line including all or parts of 4 underbuilt distribution feeders, and completed 2 or the remaining 6 distribution circuits with another circuit in progress and expect to complete at least 2 more circuits this year. All maintenance items that were discovered were repaired within the appropriate time frame

IX Facility condition – rating criteria:

Overall the system is in good condition. Most of the major feeders have been rebuilt or constructed since 1990 and our crews routinely are engaged in rebuilding and/or replacing older portions of the system. In addition we are currently planning to reconductor an existing feeder out of the South Substation along with the addition of a new West Substation and associated feeder additions and upgrades.

Storms in 2002 were a more common than usual. Our crews worked from 9:00 p.m. on April 27th until 4:30 p.m. on April 28th. due to 4-6 inches of wet heavy snow that caused numerous scattered outages throughout the system mostly due to snow sticking to trees and conductors. At least 9 different thunderstorms caused scattered outages throughout the summer, the longest reported single outage in any of these storms was approximately 5 hours. In addition we narrowly escaped probable major damage on September 2nd when a tornado struck west of the City of Medford causing extensive damage to the neighboring electric cooperative's facilities. Our crews assisted the cooperative for approximately 20 hours, mostly replacing broken poles.